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Program: Doctor of Psychology in Human & Organizational Psychology

Concentration: Organizational Leadership

Contribution to Bout Me Healing

Journal of Psychology, Recovery & Forensic Research

Sampling Techniques by Research Type

Sampling techniques differ between qualitative and quantitative research when studying smoking behaviors. For example, qualitative studies use small selected groups of smokers to understand experiences and quantitative studies use large random samples to examine how widespread smoking is (Lane, n.d.). In smoking research, quantitative studies measure how common smoking is and identify risk factors, while qualitative studies explore smokers' experiences, beliefs, and social influences. For example, a survey can track smoking rates in a city, while interviews can reveal why some individuals continue to smoke despite health warnings (LibreTexts Statistics, 2013). Quantitative research uses probability-based sampling methods to select participants in a way that represents the larger populations. For example, a smoking study might randomly select adults from different neighborhoods to make sure the results represent the larger population (Wyznat, n.d.). Common probability-based sampling techniques include random sampling, stratified sampling, and cluster sampling. For example, a smoking study might use stratified random sampling to select participants from different age groups, genders, and socioeconomic backgrounds, which can ensure all key subgroups are represented (Lane, n..d). This method helps reduce sampling bias and improve the accuracy of results by making sure the findings represent patterns in the whole population (Wyzant, n.d.). For example, using stratified random sampling in a smoking study can ensure that adults of different

ages, genders, and socioeconomic backgrounds are all included, providing a clear picture of smoking behaviors (Lane, n.d.).

In contrast, qualitative research uses non-probability sampling methods, which focus on gathering detailed information instead of representing the entire population. For example, a study on smokers' experiences might use targeted sampling to select participants who have different perspectives, such as long-term smokers or exposure to secondhand smoke, to explore personal experiences (LibreTexts Statistics, 2013). Techniques such as targeted sampling, convenience sampling, and snowball sampling are commonly used in qualitative research. For example, a smoking study can intentionally select participants who are former smokers, current smokers, or exposed to secondhand smoke to explore their experiences. Although these samples are not meant to represent the entire population, these samples provide detailed insights that cannot be captured through numbers alone (LibreTexts Statistics, 2013). Comparing these approaches shows a key difference in that quantitative sampling focuses on representing the larger population and produce generalized results, on the other hand, qualitative sampling focuses on understanding personal experiences and context. For example, a quantitative study focuses on tracking the number of cigarettes smoked per day, while a qualitative study focuses on exploring how culture beliefs influence smoking habits in a community (Lane, n.d.). Each method has limitations. Quantitative studies may oversimplify complex smoking behaviors, such as cultural or social influences, while qualitative studies can be affected by the researcher's perspective or not apply to other groups. For example, a survey captures the number of cigarettes smoked but miss the reasons behind smoking, while interviews with a small group of smokers might not reflect experiences within the wider population (LibreTexts Statistics, 2013). Combining

quantitative and qualitative approaches in smoking research can provide an understanding of smoking behaviors and can help create more effective public health interventions (Lane, n.d.). For example, surveys can show how many people smoke in a population, while interviews can show the social and cultural reasons behind smoking, giving policymakers a clear picture for interventions ((LibreTexts Statistics, 2013).

References

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